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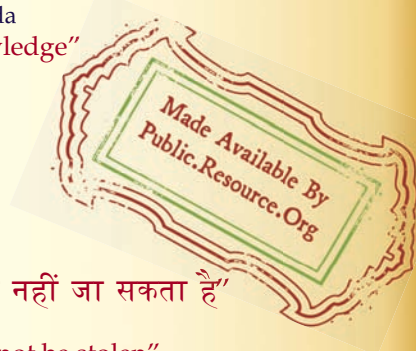
IS 5246 (2000): Coniferous logs - [CED 9: Timber and Timber Stores]



“ज्ञान से एक नये भारत का निर्माण”

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
शंकुधारी लट्ठे — विशिष्टि
(पहला पुनरीक्षण)

Indian Standard
CONIFEROUS LOGS — SPECIFICATION
(*First Revision*)

ICS 79.040

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

October 2000

Price Group 3

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Timber Sectional Committee had been approved by the Civil Engineering Division Council.

Specification for confireous sawn timber intended for further conversion is covered in IS 1909 : 1991 'Specification for coniferous sawn timber (baulks and scantlings) (*fourth revision*)'; in order to select suitable logs for such sawn timber, it is felt by the Timber Sectional Committee, that for coniferous logs an Indian Standard should also be prescribed so that for such sawn timber suitable logs could be selected. This standard is formulated to give the minimun requirements of the three grades of coniferous logs, which are intended for further revision.

In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

This standard was first published in 1969. Based on the experience gained, two amendments were issued to this standard. Besides incorporating these amendments, the evaluation of defects has been brought in line with IS 3364 (Part 1) : 1976 'Methods of measurement and evaluation of defects in timber : Part 1 Logs (*first revision*)' in this revision.

This standard contains 7.1 which permits the purchaser to use his option for selection to suit his requirements at the time of placing orders.

The Committee responsible for the preparation of this standard is given at Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test of analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CONIFEROUS LOGS — SPECIFICATION

(*First Revision*)

1 SCOPE

This standard covers the requirements of three grades of coniferous logs, that is, Grade 1, Grade 2 and Grade 3, for conversion into timber.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standard indicated below:

<i>IS No.</i>	<i>Title</i>
707 : 1976	Glossary of terms applicable to timber technology and utilization (<i>second revision</i>)
1141 : 1993	Code of practice for seasoning of timber (<i>second revision</i>)
3364 (Part 1) : 1976	Method of measurement and evaluation of defects in timber : Part 1 Logs (<i>first revision</i>)

3 TERMINOLOGY

3.1 For the purpose of this standard the definitions given in IS 707 and the following shall apply.

3.2 Crack

An actual rupture of the wood tissues, that is a separation of the fibres in the longitudinal direction.

3.3 Hollow Centre

A log is said to be affected with hollow centre, when its centre heart (pith) is partially or completely removed with or without partial removal of the heart wood.

4 GRADES

The coniferous logs shall be classified in three grades, namely Grade 1, Grade 2 and Grade 3, on the basis of permissible defects as shown against each grade of logs for every 2.5 m length.

Grade 1 — 6 minor defects or 2 major and 2 minor defects

Grade 2 — 9 minor defects or 3 major and 3 minor defects

Grade 3 — 12 minor defects or 3 major and 6 minor defects

5 SPECIES

The logs shall be of the species of timber listed below:

<i>Trade Name</i>	<i>Botanical Name</i>	<i>Abbreviation</i>
Fir	<i>Abies pindrow</i> Royle	FIR
Deodar	<i>Cedrus deodara</i> D. Don	DEO
Cypress	<i>Cupressus torulosa</i> D. Don	CYP
Spruce	<i>Picea Smithiana</i> Boiss	SPR
Kail	<i>Pinus excelsa</i> Wall	KAL
Khasi Pine	<i>Pinus Khasya</i> Royle	KPI
Chir	<i>Pinus Roxburghii</i> Sargent	CHR

6 GENERAL REQUIREMENTS

The logs shall be free from hollow centre above 15 percent of the basal area of the log, spiral grain, any kind of decay (rot), insect attack and any other defects (except those permitted in 8). The hollow centre throughout the length of the log shall not be permitted.

7 DIMENSIONS AND MEASUREMENT

7.1 Dimensions

The logs shall be of the following dimensions:

Minimum length	2.5 m
Minimum mean mid-girth	100 cm

NOTE — Dimensions of logs less than the above may be permitted, if so, desired by the purchaser.

7.2 Measurement

The measurement of length and girth and the calculation of volume of logs shall be made as in 7.2.1 to 7.2.3.

7.2.1 Length

It shall be taken as the shortest distance in metres from one extreme end to the other. The length shall be rounded off to the nearest lower 0.05 m.

7.2.2 Mean Girth

In a log of regular taper, the mean girth shall be measured at the mid-length of a log but not over the bark or any protuberances. The girth shall be measured in centimetres and rounded off to the nearest lower centimetre.

7.2.2.1 In a log of irregular taper, three measurements shall be taken, that is one near the mid-length and at each end but not over the bark or any protuberance, the mean girth being obtained by taking the average of these measurements.

7.2.2.2 If girth measurements are taken over the bark, a deduction of 10 percent of mean girth, shall be made from the mid-girth on account of the bark.

7.2.3 Volume

The volume of logs shall be calculated by the quarter girth formula, as given below, the volume shall be expressed in cubic metre correct to three decimal places :

$$V = \left[\frac{G}{4} \right]^2 \times L$$

where

- V = Volume in m³,
- G = Girth in m, and
- L = Length in m.

8 PERMISSIBLE DEFECTS IN LOGS AND THEIR EVALUATION

8.1 Defects to the extent, specified below, shall be permissible; plugging of defects shall not be permissible. All defects shall be measured as in IS 3364 (Part I).

8.1.1 Lack of Straightness

For every 2.5 m length of the log measured from its butt end:

- | | |
|--|----------------|
| a) A deviation up to 25 mm from the straight | No defect |
| b) A deviation over 25 mm and up to 50 mm from the straight | A minor defect |
| c) A deviation over 50 mm and up to 100 mm from the straight | A major defect |

8.1.2 Taper

For every 2.5 m length of the log measured from its butt end:

- | | |
|---|----------------|
| a) A taper up to 200 mm | No defect |
| b) A taper over 200 mm and up to 250 mm | A minor defect |
| c) A taper over 250 mm and up to 300 mm | A major defect |

8.1.3 End Splits

The longest end split at each end shall be measured and the lengths added together. For every 2.5 m length

of the log:

- | | |
|--|----------------|
| a) The total length of the longest splits up to 125 mm | No defect |
| b) The total length of the longest splits over 125 mm and up to 190 mm | A minor defect |
| c) The total length of the longest splits over 190 mm and up to 250 mm | A major defect |

8.1.4 Surface Cracks

The depth of any crack shall not exceed 50 mm at any place on a log.

8.1.5 Cup Shakes (Ring Shakes)

- | | |
|---|------------------------------------|
| a) A cup/ring shake visible only on one end and located within 50 mm from the centre heart (pith) of a log | A minor defect |
| b) A cup/ring shake visible on both the ends and located within 50 mm from the centre heart (pith) of a log | Two minor defects (for each end) |
| c) A cup/ring shake visible only on one end and whose length, when measured along the arc, exceeds 230 mm | A major defect |

8.1.6 Knots

- | | |
|--|----------------|
| a) Live knots measuring up to 75 mm in diameter | No defect |
| b) Live knots measuring over 75 mm and up to 100 mm in diameter and occurring not more than 6 in number in a length of 2.5 m | A minor defect |
| c) Live knots measuring over 100 mm and up to 125 mm in diameter and occurring not more than 6 in number in a length of 2.5 m (see Note) | A major defect |
| d) Dead knots measuring up to 75 mm in diameter and occurring not more than 2 in number in a length of 2.5 m | No defect |
| e) Dead knots measuring over 75 mm and up to 125 mm in diameter and occurring not more than 4 in number in a length of 2.5 m | A minor defect |

- f) Dead knots measuring over 125 mm and up to 150 mm in diameter and occurring not more than 4 in number in a length of 2.5 m A major defect

NOTE — Live knots measuring over 150 mm and up to 250 mm in diameter and occurring not more than 2 in number shall be allowed, provided they are not nearer than 2.0 m from the butt end of a log.

8.1.7 Hollow Centre

- a) Not more than 10 percent of the basal area of the log and not extending throughout the length of the log A minor defect
- b) More than 10 percent but not above 15 percent of the basal area of the log and not extending throughout the length of the log A major defect

8.1.8 Wounds

Wounds shall not be numerous or so grouped or located as to affect unduly the yield on conversion and usefulness of the sawn material. For the purpose of this standard, wounds shall be classified as under:

- a) Wounds upto 25 mm in depth and upto 50 mm in diameter No defect
- b) Wounds over 25 mm and upto 40 mm in depth and upto 75 mm in diameter A minor defect
- c) Wounds over 40 mm and upto 50 mm in depth and over 75 mm A major defect

and upto 150 mm in diameter

9 END COATING

To protect and to minimize end cracking, splitting, etc, the ends of each log shall be adequately coated, up to a distance of at least 125 mm, with any of the materials mentioned in IS 1141. Application of end coating on the logs shall be done soon after the inspection of the log.

10 MARKING

10.1 Each log shall be legibly and indelibly marked at suitable place, preferably at the ends, to indicate the following:

- Abbreviation of the species,
- Supplier's identification mark and the year of supply,
- Length and mean girth of the log, and
- Grade.

10.2 BIS Certification Marking

10.2.1 Each log may also be marked with the Standard Mark.

10.2.2 The use of Standard Mark is governed by the provision of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. Details of conditions under which a licence for the use of the Standard Mark may be granted to the manufacturers or the producers may be obtained from the Bureau of Indian Standards.

ANNEX A

(Foreword)

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Forest Department, Government of Uttar Pradesh, Lucknow

Himachal Pradesh Forest Department, Simla

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Kerala Forest Research Institute, Peechi

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